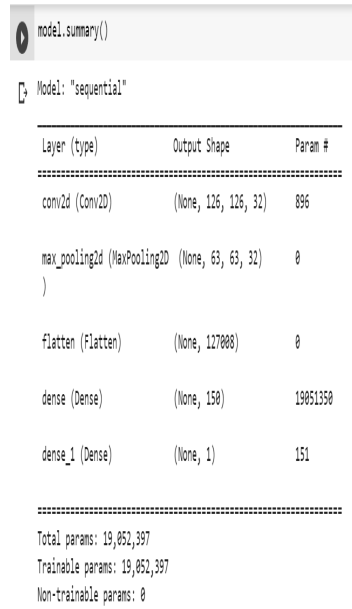
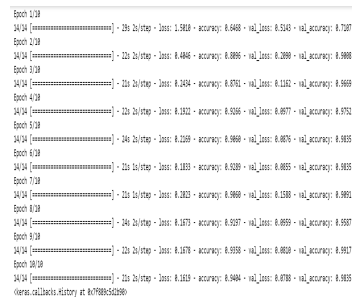


Project Development Phase Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID08252
Project Name	Emerging methods for early detection of forest fires
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in the model performance testing template.

S.no	Parameter	Values	Screenshot
1.	Model summary	As the threat of forest fire increases due to climatic changes, the need for finding a detection system increases. We proposed a Deep-learning based model for early detection of forest fires. The proposed model successfully classifies the images into fire and no fire, and sends alert messages in case of fire. Thus, the Deep learning algorithms proved their efficiency in detecting different objects.	 <pre> model.summary() Model: "sequential" Layer (type) Output Shape Param # ----- conv2d (Conv2D) (None, 126, 126, 32) 896 max_pooling2d (MaxPooling2D) (None, 63, 63, 32) 0 flatten (Flatten) (None, 127008) 0 dense (Dense) (None, 150) 1905150 dense_1 (Dense) (None, 1) 151 Total params: 19,052,397 Trainable params: 19,052,397 Non-trainable params: 0 </pre>
2.	Accuracy	Training accuracy- 92% - 98% Validation accuracy- 95%	 <pre> Epoch 1/20 24/24 [=====] - 28s 2s/step - loss: 1.5820 - accuracy: 0.9468 - val_loss: 0.5240 - val_accuracy: 0.7207 Epoch 2/20 24/24 [=====] - 22s 2s/step - loss: 0.4486 - accuracy: 0.9806 - val_loss: 0.2090 - val_accuracy: 0.9008 Epoch 3/20 24/24 [=====] - 22s 2s/step - loss: 0.2434 - accuracy: 0.9762 - val_loss: 0.1262 - val_accuracy: 0.9669 Epoch 4/20 24/24 [=====] - 22s 2s/step - loss: 0.1322 - accuracy: 0.9908 - val_loss: 0.0877 - val_accuracy: 0.9752 Epoch 5/20 24/24 [=====] - 24s 2s/step - loss: 0.2269 - accuracy: 0.9868 - val_loss: 0.0876 - val_accuracy: 0.9835 Epoch 6/20 24/24 [=====] - 22s 2s/step - loss: 0.1333 - accuracy: 0.9289 - val_loss: 0.0855 - val_accuracy: 0.9835 Epoch 7/20 24/24 [=====] - 22s 2s/step - loss: 0.2023 - accuracy: 0.9909 - val_loss: 0.1500 - val_accuracy: 0.9951 Epoch 8/20 24/24 [=====] - 24s 2s/step - loss: 0.1373 - accuracy: 0.9207 - val_loss: 0.0919 - val_accuracy: 0.9507 Epoch 9/20 24/24 [=====] - 22s 2s/step - loss: 0.1370 - accuracy: 0.9308 - val_loss: 0.0920 - val_accuracy: 0.9917 Epoch 10/20 24/24 [=====] - 22s 2s/step - loss: 0.1320 - accuracy: 0.9404 - val_loss: 0.0700 - val_accuracy: 0.9835 (learn.callCheckHistory at 0x7f8b55d29f90) </pre>

